2014/15 シーズンにおける南大洋東経 110 度ラインの動物プランクトン群集の季節変動解析

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Intra-annual seasonal changes in zooplankton communities along a 110°E transect of the Southern Ocean during 2014/15

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Many studies using data collected by Continuous Plankton Recorder (CPR) have suggested micro- and meso-sized zooplankton can be used as indicator species of climate change. Despite this, though regular CPR sampling would enable detection of changes in zooplankton communities, few multi-seasonal CPR towing studies have been undertaken along single transects. Using CPR data we report the composition, distribution, and abundance of micro- and meso-zooplankton along the 110°E meridian over three transects sampled in December 2014, and January and March 2015. We describe total zooplankton abundance in both the Polar Frontal Zone (PFZ) and Antarctic Zone (AZ) to increase from December to January, and mean AZ abundance to peak abruptly in January (381.85 ind. m^{-3}) before decreasing to about 25% that level in March. We attribute changes in total zooplankton abundance to fluctuations in numbers of two small, dominant copepods, *Oithona similis* and *Ctenocalanus citer*. High AZ phytoplankton concentrations in December likely increased surface food availability, influencing population growth and/or timing of copepod seasonal ascension. We recommend future CPR surveys be augmented with finer-meshed sampling for more accurate determination of abundances of small-sized, potentially important indicators of environmental change.